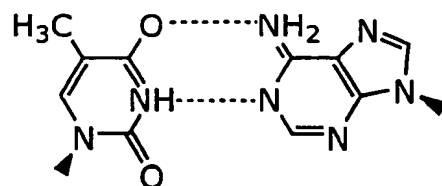
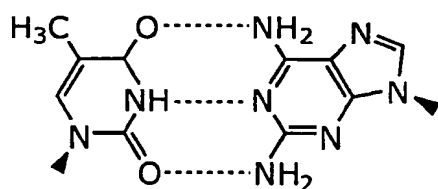


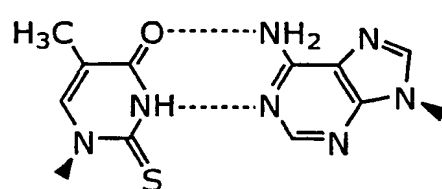
C - G



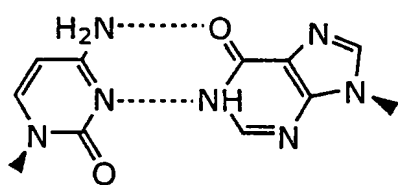
T (or U) - A



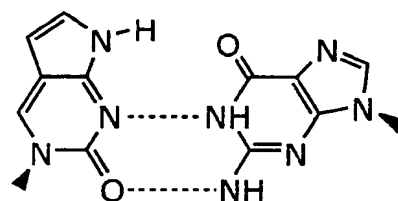
T (or U) - 2-amino A



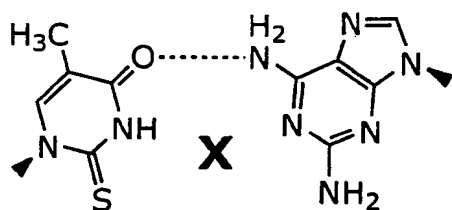
2-thio T (or U) - A



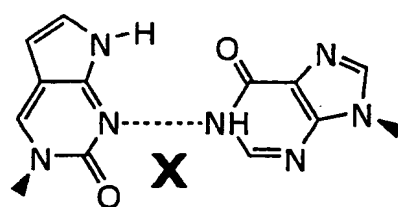
C - I



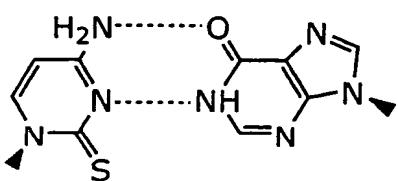
PyrroloPyr - G



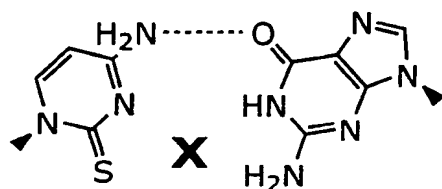
2-thio T (or U) - 2-amino A



PyrroloPyr - I

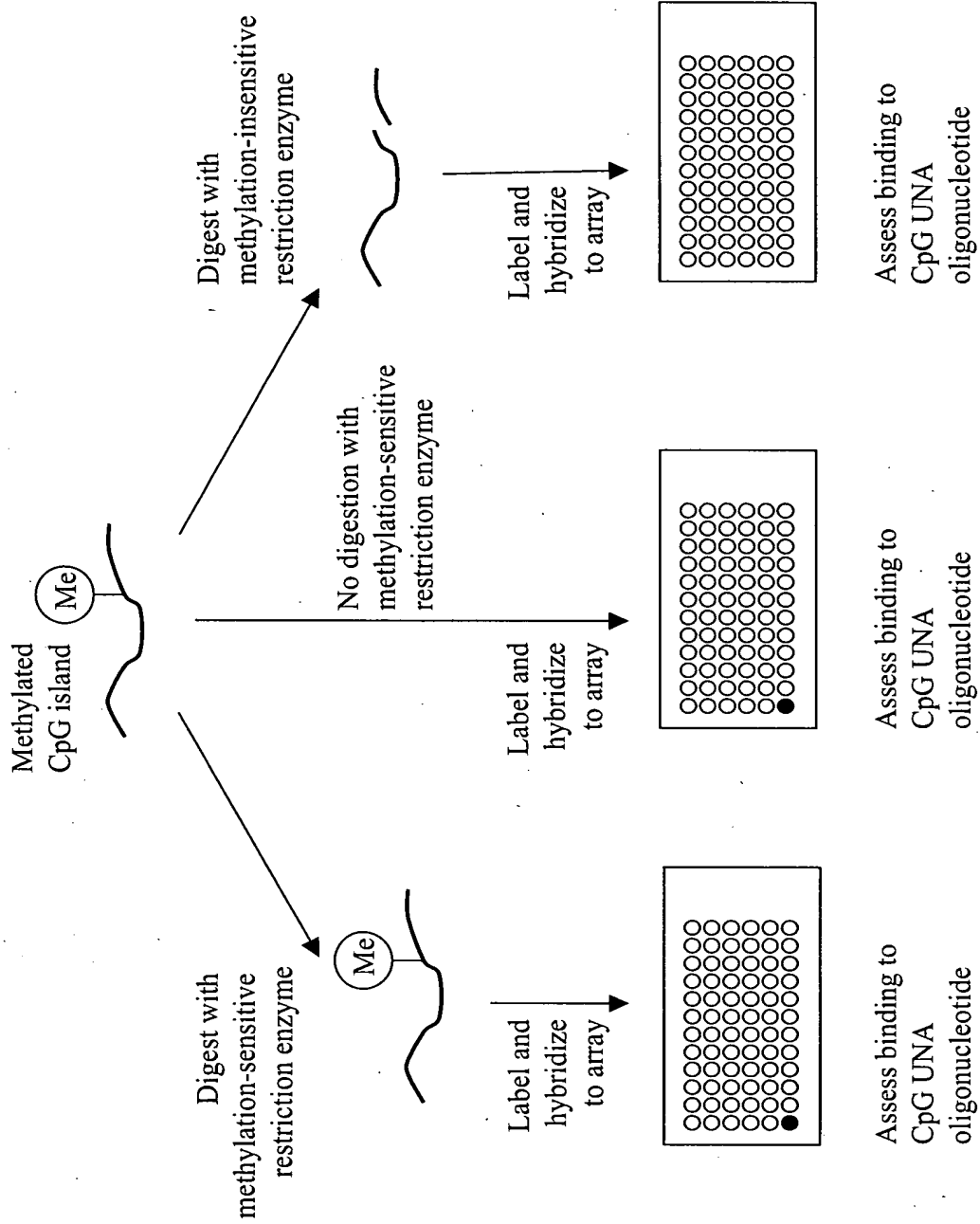


2-thio C - I



2-thio C - G

FIG. 1

**FIG. 2**

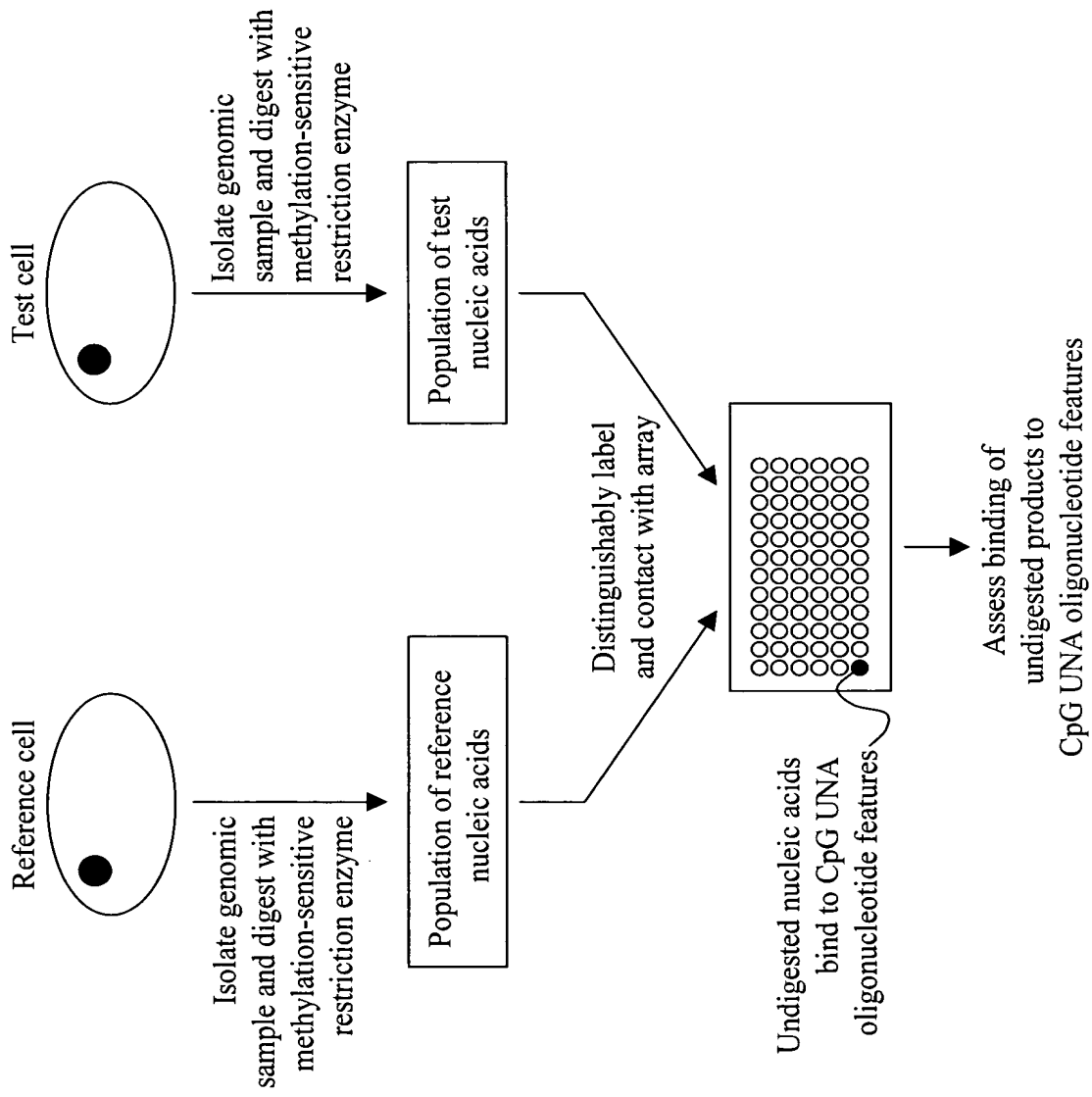


FIG. 3

Target DNA:
Asparagine Synthetase (AS) CpG Island

HPAII

↓ ↓ ↓

AAAAAGTACACATATAACATTTACAGGGGCTCAAACTGCCGCTGCCTCCTCTCCGGAGCGGTCCGGCCTGCCGGCCGGTTCCCTCTCGATGCTTACAGGAACACAGAAAGGTCCTTCGCTAGCTGTCAGGTG

RSAl

↓

ALUl

↓

<u>Unmethylated CpGs</u>	HPAII cutting
A C A C A T A T A A C A T T T A C A G G G G C T C A A A C T G C G C G C T C C T C C T C T C C	G G C C T G C C
G G A G C G G T C C	G G C C G C G G T T C C C T C T C G A T G C T T C A G G G A A C C A G G A C A G A A A G G T C C T T C C G

Label HpaII treated target (Cy5) and non-treated control (Cy3) targets

Hybridize to CpG UNArray

ACACATATAACAATTACAGGGGCTCAAACTGCCGCTGCCTCCTCTCC

GGCTCAAACTGCCGCTGCCTCCTCTCCGGAGCGGTCCGGCCTGCCGCTGCCTCCTCTCC

Cy5

Cy3

Non-optimal hybridization:
> 60bp intact complementary target DNA molecule/oligonucleotide

Weak binding to AS CpG UNA oligonucleotide

FIG. 4B